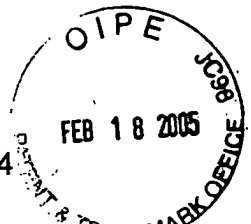
Reexam



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THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Perry et al.	Reexamination Proceeding
Control No.:	90/006,192
Filed:	January 14, 2002
For:	U.S. Patent No. 6,160,621

In re reissue application of Perry et al.

Application No.:	10/603,740
Filed:	June 26, 2003
For:	U.S. Patent No. 6,160,621

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

HOUSEKEEPING AMENDMENT

In response to the Decision Merging Reexamination and Reissue Proceedings mailed February 14, 2005, please enter the following amendment in both the Reexamination Proceeding Control No. 90/006,192 and Reissue Application No. 10/603,740 so that identical amendments are in both files.

In the Claims

Please cancel claims 1, 2, 11, 12, 21, and 22 and amend the following claims:

3. (Amended) [A process monitor according to claim 2] A process monitor for determining process parameters during a plasma etch process of a wafer, the process monitor comprising:

a flash lamp emitting a broad-band optical radiation;

a spectrograph responsive to optical radiation reflected from the wafer;

a data processing element for processing a first signal from the spectrograph, the first signal representative of emitted optical radiation reflected from the wafer, and determining a process parameter; and

a beam forming module operable to collimate the emitted optical radiation wherein the collimated optical radiation is incident normally to the wafer.

4. (Amended) [A process monitor according to claim 1] A process monitor for determining process parameters during a plasma etch process of a wafer, the process monitor comprising:

a flash lamp emitting a broad-band optical radiation;

a spectrograph responsive to optical radiation reflected from the wafer;

a data processing element for processing a first signal from the spectrograph, the first signal representative of emitted optical radiation reflected from the wafer, and determining a process parameter wherein a spectrograph integration period is synchronized to the flash lamp.

5. (Amended) [A process monitor according to claim 1] A process monitor for determining process parameters during a plasma etch process of a wafer, the process monitor comprising:

a flash lamp emitting a broad-band optical radiation;

a spectrograph responsive to optical radiation reflected from the wafer;

a data processing element for processing a first signal from the spectrograph, the first signal representative of emitted optical radiation reflected from the wafer, and determining a process parameter wherein a second signal

representative of optical radiation reflected from the wafer during a period when the flash lamp is not emitting broad-band optical radiation is processed by the data processing element and subtracted from the first signal to determine a process parameter.

6. (Amended) A process monitor according to claim [1] 5 wherein a third signal representative of the intensity of the emitted radiation is processed by the data processing element to normalize the first signal.

8. (Amended) A process monitor according to claim [1] 5 wherein the process parameter further comprises a thickness of a layer carried by the wafer.

9. (Amended) [A process monitor according to claim 1] A process monitor for determining process parameters during a plasma etch process of a wafer, the process monitor comprising:

a flash lamp emitting a broad-band optical radiation;

a spectrograph responsive to optical radiation reflected from the wafer;

a data processing element for processing a first signal from the spectrograph, the first signal representative of emitted optical radiation reflected from the wafer, and determining a process parameter; and

a beam forming module operable to collimate the emitted optical radiation

wherein the process parameter further comprises an etch rate of a layer carried by the wafer.

10. (Amended) A process monitor according to claim [1] 9 wherein the process parameter further comprises a process endpoint.

13. (Amended) [A process monitor according to claim 12] A process monitor for determining process parameters during a plasma deposition process of a wafer, the process monitor comprising:

a flash lamp emitting a broad-band optical radiation;

a spectrograph responsive to optical radiation reflected from the wafer;

a data processing element for processing a first signal from the spectrograph, the first signal representative of emitted optical radiation reflected from the wafer, and determining a process parameter; and

a beam forming module operable to collimate the emitted optical radiation wherein the collimated optical radiation is incident normally to the wafer.

14. (Amended) [A process monitor according to claim 11] A process monitor for determining process parameters during a plasma deposition process of a wafer, the process monitor comprising:

a flash lamp emitting a broad-band optical radiation;

a spectrograph responsive to optical radiation reflected from the wafer;

a data processing element for processing a first signal from the spectrograph, the first signal representative of emitted optical radiation reflected from the wafer, and determining a process parameter and wherein a spectrograph integration period is synchronized to the flash lamp.

15. (Amended) [A process monitor according to claim 11] A process monitor for determining process parameters during a plasma deposition process of a wafer, the process monitor comprising:

a flash lamp emitting a broad-band optical radiation;

a spectrograph responsive to optical radiation reflected from the wafer;

a data processing element for processing a first signal from the spectrograph, the first signal representative of emitted optical radiation reflected from the wafer, and determining a process parameter and wherein a second signal representative of optical radiation reflected from the wafer during a period when the flash lamp is not emitting broad-band optical radiation is processed by the data processing element and subtracted from the first signal to determine a process parameter.

16. (Amended) A process monitor according to claim [11] 15 wherein a third signal representative of the intensity of the emitted radiation is processed by the data processing element to normalize the first signal.

18. (Amended) A process monitor according to claim [11] 15 wherein the process parameter further comprises a thickness of a layer carried by the wafer.

19. (Amended) [A process monitor according to claim 11] A process monitor for determining process parameters during a plasma deposition process of a wafer, the process monitor comprising:

a flash lamp emitting a broad-band optical radiation;

a spectrograph responsive to optical radiation reflected from the wafer;

a data processing element for processing a first signal from the spectrograph, the first signal representative of emitted optical radiation reflected from the wafer, and determining a process parameter and wherein the process parameter further comprises a deposition rate of a layer carried by the wafer.

20. (Amended) A process monitor according to claim [11] 19 wherein the process parameter further comprises a process endpoint.

23. (Amended) [A method of monitoring a process a recited in claim 22] A method of monitoring a process and for determining process parameters during a plasma process of a wafer, the method comprising:

providing a flash lamp emitting a broad-band optical radiation;

providing a spectrograph responsive to optical radiation reflected from the wafer;

providing a data processing element for processing a first signal from the spectrograph, the first signal representative of emitted optical radiation reflected from the wafer, and determining a process parameter; and

providing a beam forming module operable to collimate the emitted optical radiation wherein the collimated optical radiation is incident normally to the wafer.

24. (Amended) [A method of monitoring a process as recited in claim 22 further comprising] A method of monitoring a process and for determining process parameters during a plasma process of a wafer, the method comprising:

providing a flash lamp emitting a broad-band optical radiation;

providing a spectrograph responsive to optical radiation reflected from the wafer;

providing a data processing element for processing a first signal from the spectrograph, the first signal representative of emitted optical radiation reflected from the wafer, and determining a process parameter and synchronizing a spectrograph integration period to the flash lamp.

25. (Amended) [A method of monitoring a process as recited in claim 21 further comprising] A method of monitoring a process and for determining process parameters during a plasma process of a wafer, the method comprising:

providing a flash lamp emitting a broad-band optical radiation;

providing a spectrograph responsive to optical radiation reflected from the wafer;

providing a data processing element for processing a first signal from the spectrograph, the first signal representative of emitted optical radiation reflected from the wafer, and determining a process parameter and processing a second signal representative of optical radiation reflected from the wafer during a period when the flash lamp is not emitting broad-band optical radiation and subtracting the processed second signal to determine a process parameter.

26. (Amended) A method of monitoring a process as recited in claim [21] 25 further [comprising] processing a third signal representative of the intensity of the emitted radiation to normalize the first signal.

28. (Amended) A method of monitoring a process as recited in claim [21] 25 wherein the process parameter further comprises a thickness of a layer carried by the wafer.

29. (Amended) [A method of monitoring a process as recited in claim 21] A method of monitoring a process and for determining process parameters during a plasma process of a wafer, the method comprising:

providing a flash lamp emitting a broad-band optical radiation;

providing a spectrograph responsive to optical radiation reflected from the wafer;

providing a data processing element for processing a first signal from the spectrograph, the first signal representative of emitted optical radiation reflected from the wafer, and determining a process parameter wherein the process parameter further comprises an etch rate of a layer carried by the wafer.

30. (Amended) [A method of monitoring a process as recited in claim 21] A method of monitoring a process and for determining process parameters during a plasma process of a wafer, the method comprising:

providing a flash lamp emitting a broad-band optical radiation;

providing a spectrograph responsive to optical radiation reflected from the wafer;

providing a data processing element for processing a first signal from the spectrograph, the first signal representative of emitted optical radiation reflected from the wafer, and determining a process parameter wherein the process parameter further comprises a deposition rate of a layer carried by the wafer.

31. (Amended) A method of monitoring a process as recited in claim [21] 30 wherein the process parameter further comprises a process endpoint.

Remarks

Allowance of claims 3 – 10, 13 – 20 and 23 – 31 pending in this application is respectfully requested. If the examiner has any questions regarding this reissue application, the examiner is respectfully requested to telephone the undersigned attorney for applicant.

Respectfully submitted,

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TRANSMITTAL FORM

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Examiner Name	Lynn M. Kryza
Attorney Docket Number	019194.00003/4

Total Number of Pages in This Submission: 10

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
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  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☑ Other Enclosure(s) (please Identify below):
  Houskeeping Amendment

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Locke Liddell & Sapp LLP		
Signature	Martin Korn		
Printed name	Martin Korn		
Date	2/17/2005	Reg. No.	28,317

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